

Application No.: 10/521,906
Amendment and Response dated June 25, 2008
Reply to Final Office Action of April 30, 2008
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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the subject application, and please amend the claims as follows:

Claims 1-16 (cancelled)

Claim 17. (Currently amended): Device for the piece-wise or batch-wise refining of pieces of a textile substrate with a treatment medium under high pressure in a near critical or supercritical state, comprising:

a substantially cylindrical pressure vessel, which is provided with a closable feed aperture for placing the pieces of the textile substrate in said pressure vessel;

a pipe system for feeding the treatment medium to and discharging it from said pressure vessel under high pressure in a near critical or supercritical state during treatment;

wherein

said cylindrical pressure vessel is provided on at least one of its two end faces with an aperture that can be closed by a lid, which aperture forms said feed aperture,

said device comprises retaining means for keeping said lid in place in a sealing manner during treatment,

said retaining means comprise a bounding frame that is circumferentially closed, with two interconnected end pieces situated at a distance from each other, which end pieces in a closed position can be slid over said pressure vessel and thereby retain said end faces of said pressure vessel in its axial direction, and

said pipe system connects to feed means for feeding in supercritical or near critical fluid.

Claim 18. (Previously presented): Device according to claim 17, in which said lid comprises a cylindrical wall part that in a position closing said feed aperture extends in said axial direction along an inner circumferential wall of said pressure vessel,
in which at least one sealing ring is provided between said cylindrical wall part and said inner circumferential wall of said pressure vessel, and
in which said sealing ring permits a slide of said lid in said axial direction relative to said inner circumferential wall of said pressure vessel.

Claim 19. (Previously presented): Device according to claim 17, in which said lid is provided with a holding part, for the purpose of removing said cylindrical wall part from said pressure vessel in said axial direction.

Claim 20. (Previously presented): Device according to claim 17, in which said bounding frame comprises two straight and two arch-shaped parts.

Claim 21. (Previously presented): Device according to claim 20, in which two substantially semi-cylindrical retaining pieces, which in said closed position lie between said arch-shaped parts of said bounding frame and said end faces of said pressure vessel, are provided.

Claim 22. (Previously presented): Device according to claim 17, in which said pipe system opens into said lid.

Claim 23. (Previously presented): Device according to claim 22, in which a slotted opening is provided in said bounding frame, for the accommodation in a sliding manner in said opening of a part of said pipe system opening into said lid.

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Claim 24. (Previously presented): Device according to claim 17, in which said two end faces of the pressure vessel are provided with feed apertures that are closable by lids.

Claim 25. (Previously presented): Device according to claim 17, in which said bounding frame is made of composite material, in particular of fibre-reinforced material.

Claim 26. (Previously presented): Device according to claim 25, in which said bounding frame is made of wound fibre-reinforced material, in particular of wound glassfibre-reinforced plastic.

Claim 27. (Canceled)

Claim 28. (Canceled)

Claim 29. (Currently amended): Method for the piece-wise or batch-wise refining of pieces of a textile substrate with a treatment medium under high pressure in a near critical or supercritical state with a device according to claim 17, comprising the following steps:

placing one or more pieces of said textile substrate in said pressure vessel;
closing said feed aperture by putting on said lid;
sliding said pressure vessel and said bounding frame into each other;
feeding said treatment medium to said pressure vessel at high pressure in a near critical or supercritical state for a desired cycle time;
after completion of said cycle time sliding said pressure vessel and the bounding frame out of each other and opening said lid; and
removing said refined textile substrate from said pressure vessel.

Claim 30. (Canceled)

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Claim 31. (Previously presented): Method according to claim 29, in which said treatment medium comprises CO₂, N₂O, lower alkanes such as ethane and propane and mixtures thereof.

Claim 32. (Previously presented): Use of a device according to claim 17, for the piece-wise or batch-wise refining of pieces of textile substrate with a treatment medium under high pressure in a near critical or supercritical state.